



Creating
**COASTAL
STEWARDSHIP**
through Science



Monitoring Creek Health

Post-Visit Activities

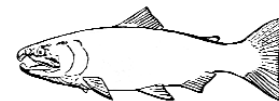
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What Can We Learn from Our Field Journals?



Post-
Visit

Lesson Plan

Students compile data from their field journals to evaluate the suitability for coho salmon and/or steelhead trout habitat. Class presentations by each team will recreate the entire creek in class.

Time required: 2–hours

Location: classroom

Suggested Group size: all students

Subject(s): science, math, language arts, and art

Concept(s) covered: water quality testing, creek ecology

Adapted from: Izaak Walton League of America
Aquatic Insect Survey

Written by: Tricia Corsetti, Tomales Elementary
Christie Denzel Anastasia, National Park Service

Last updated: 03/05/00

Student Outcomes

At the end of this activity, the students will be able to:

- Understand how scientists evaluate fieldwork results and tests.
- Discuss factors and conditions which influence various results and observations.
- Compare and contrast field-test results and observations.

California Science Standard Links (grades 6-8)

This activity is linked to the California Science Standards in the following areas:

- 6th grade: 7b- appropriate tools and technology to perform tests, collect data, and display data;
- 7c- conduct qualitative statements about the relationships between variables;
- 7d- communicate steps and results from an investigation
- 7e- evidence is consistent with a proposed explanation.
- 7th grade: 7a- appropriate tools and technology to perform tests, collect data, and display data;
- 7c- communicate logical connections.
- 8th grade: 1b- average speed;
- 9b- evaluate the accuracy and reproducibility of data.

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National Science Standard Links (grades 5-8)

This activity is linked to the national science standards in the following areas:

- Content Standard A– Use appropriate tools and techniques to gather, analyze, and interpret data; think critically and logically to make the relationship between evidence and explanations; recognize and analyze alternative explanations and predictions; communicate scientific procedures and explanations; use mathematics in all aspects of scientific inquiry; understandings about science and technology.
- Content Standard G– Science as a human endeavor

Materials

To be photocopied by teacher:

- **Field Results Analysis** activity sheets, one set per team
- **Pre- and Post-evaluation** activity sheets (see procedure #4 in this lesson)

To be provided by the teacher:

- Colored paper, chart paper, pens, and graph paper
- One calculator per team

Vocabulary

Generated by student inquiry

Procedures

1. Hand out activity sheets

Allow students to re-form groups from field visit. Their assignment is to work as a team to complete activity sheets and prepare for a class presentation. Have available large sheets of paper, drawing supplies and calculators. Each team will need at least two large pieces of paper, one for a creek drawing and one for data.

2. Class presentations

Each will have about five to ten minutes for their class presentation. The first group to present will tape its creek map to a wall or blackboard and its large data sheet directly above it. The next presentation will be a group that worked directly left or right of them in the field. Their map will be taped directly next to the first map. This will provide an actual recreation of the creek in the classroom. Students should spend a couple of minutes sharing their data and drawings with the class.

3. Class discussion

Once all of the groups have recreated the creek in class, compare and contrast their findings to determine if this creek could potentially be a healthy habitat for coho salmon and/or steelhead trout based on their data observations.



Examples of discussion questions:

- ☐ If the pH readings were relatively different along creek sections, what might account for this?
- ☐ How can stream temperature increase as a result of logging next to streams? How does increased temperature affect coho salmon or steelhead trout?
- ☐ Will stream velocity, weather, or time of day cause dissolved oxygen and temperature readings to fluctuate? How?
- ☐ Is the creek a healthy habitat for coho salmon and steelhead trout based on your data observations (absence of barriers for the upstream migration of adults, sediment/fine gravel for rearing young)?

4. Pre- and Post-evaluation

If you saved the **Pre-** and **Post-evaluation** activity sheets from the first pre-visit lesson, redistribute them to the original students. Explain that students may change their answers based on what they have learned in class and on their field trip. If you choose this option, have students write in a different color pen or pencil with the date written in that color.

If you did not choose to save the original activity sheets, make copies for each student of the **Pre-** and **Post-evaluation** (located in the first pre-visit activity: “How Can We Learn More about the Coho Salmon and Steelhead Trout?”). We would like to see the results of these evaluations! Please consider mailing completed Pre- and Post-evaluation activity sheets back to Point Reyes National Seashore. We would like to measure the success of your use of this curriculum in changing knowledge, skills and abilities.

Mail to: National Park Service
Point Reyes National Seashore
Division of Interpretation
attn: Education Specialist
Point Reyes Station, CA 94956

Extension ideas

1. Access the web site, www.mywatershed.org, for testing results collected by other school groups in Marin County. Ask for a few student volunteers to update the class information on this website and to share other results with the class.
2. Formalize the results as a Scientific Paper. Include title, abstract, introduction, methods, results, discussion, acknowledgments, and references.
3. Continue to survey your creek once every month. Evaluate the results at the end of the year.
4. Survey a creek in your local area. Compare those results with your results from Point Reyes National Seashore.

Name _____ Date _____



Field Results Analysis

Working as a team, you will present your section of the creek to other teams in your class.

Use this activity sheet to create a “Summary Sheet” from field data and a “Creek Map” drawing to be used as visual aids in your presentation.

Activity Sheet

Directions for Summary Sheet

Create a “Summary Sheet” listing the most relevant and interesting information that your entire team was able to collect on your section of the creek. Complete these activity sheets and transfer this information to a large sheet of paper provided by your teacher.

- **Site information**

What was the most interesting or important information recorded on the “Site Information” sheet of your journals?

Was the creek appearance related to the health of the creek?

What animals do you think depend on this creek based on animal tracks recorded in your journal?



Name _____ Date _____

Activity Sheet

Field Results Analysis (continued)

- **Creek Observations**

Which land use in this watershed do you believe has the most impact on your creek?

- **Tests on Water Samples**

Temperature

Record temperature readings from all field journals below:
(convert to Celsius if necessary by using $C = F - 32 \times 5/9$)

What was your average temperature?

pH

Record pH readings from all field journals below:

What was your average pH reading?



Name _____ Date _____



Field Results Analysis (continued)

Dissolved oxygen

Record dissolved oxygen readings from all field journals below:

What was your average dissolved oxygen reading?

Activity Sheet

Using your average temperature and average dissolved oxygen, determine the percent saturation:

% Saturation			
Temperature (C)	Dissolved Oxygen		
	0 ppm	4 ppm	8 ppm
2	0	29	58
4	0	31	62
6	0	32	64
8	0	34	68
10	0	35	71
12	0	37	74
14	0	39	78
16	0	41	81
18	0	42	84
20	0	44	88
22	0	46	92
24	0	48	95
26	0	49	99
28	0	51	102
30	0	53	106



Name _____ Date _____

Activity Sheet

Field Results Analysis (continued)

- **Creek Testing**

Channel Width

Record the channel width:

Water Depth

Record the three depth readings:

What was the average depth?

Float Method to Determine Velocity

Use the following equation to determine the average velocity for each orientation, and overall.

length of rope / time to travel distance = average velocity rate

right:

center:

left:

Record the average of all velocities:

Discharge

Use the following equation to determine the discharge, or flow rate, for the creek:

channel width X average of depths X average of velocities =
measurement/time (example: cubic feet per second)



Field Results Analysis

(continued)

• Aquatic Insect Survey

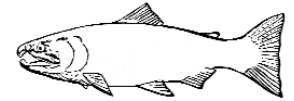
Use the following graph to determine the water quality rating based on your aquatic insect survey.

Aquatic Insect Survey		
Tolerate Pollution	Tolerate Some Pollution	Do Not Tolerate Pollution
<input type="checkbox"/> Aquatic worms	<input type="checkbox"/> Amphipod/ Scud	<input type="checkbox"/> Alderfly adult
<input type="checkbox"/> Blackfly adult	<input type="checkbox"/> Backswimmer	<input type="checkbox"/> Alderfly nymph
<input type="checkbox"/> Blackfly larvae	<input type="checkbox"/> Crane fly adult	<input type="checkbox"/> Caddisfly adult
<input type="checkbox"/> Leeches	<input type="checkbox"/> Crane fly nymph	<input type="checkbox"/> Caddisfly larvae
<input type="checkbox"/> Midge larvae	<input type="checkbox"/> Damselfly adult	<input type="checkbox"/> Gilled snails
<input type="checkbox"/> Mosquito adult	<input type="checkbox"/> Damselfly larvae	<input type="checkbox"/> Hellgrammite
<input type="checkbox"/> Mosquito larvae	<input type="checkbox"/> Dragonfly adult	<input type="checkbox"/> Mayfly nymph
<input type="checkbox"/> Pouch snails	<input type="checkbox"/> Dragonfly larvae	<input type="checkbox"/> Riffle beetle adult
<input type="checkbox"/> Watersnail eggs	<input type="checkbox"/> Water beetle adult	<input type="checkbox"/> Stonefly adult
	<input type="checkbox"/> Water beetle larvae	<input type="checkbox"/> Stonefly nymph
	<input type="checkbox"/> Water strider	<input type="checkbox"/> Water penny larvae
	<input type="checkbox"/> Waterboatman	
Summary		
How many insects did you find that TOLERATE pollution?	How many insects did you find that TOLERATE SOME pollution?	How many insects did you find that DO NOT TOLERATE pollution?

Directions for Creek Drawing

Using everyone's drawings, recreate your section of the creek onto a large piece of paper. Try to use the entire sheet of paper so that it can be taped next to other team drawings representing other sections of the creek.

What Is Your Role in Preserving Our Watershed?



Post-Visit

Lesson Plan

Students investigate various professions to decide which actions promote a healthy watershed. Posters are created based on this information and shared with community members.

Time required: time varies

Location: classroom

Suggested Group size: entire class

Subject(s): ecology, language arts

Concept(s) covered: watersheds, pollution, stewardship

Written by: Lynne Dominy and Christie Denzel Anastasia,
National Park Service

Last updated: 07/02/00

Student Outcomes

At the end of this activity, the students will be able to:

- Understand how humans impact watersheds.
- Design posters with suggested actions for specific professions/roles in our society.
- Devise a strategy for their households, promoting clean and plentiful water supplies.

California Science Standard Links (grades 6-8)

This activity is linked to the California science standards in the following areas:

6th grade: 2a- water running downhill is the dominant process in shaping the landscape;

2b- rivers and streams are dynamic systems;

5b- organisms and the physical environment.

7th grade: 7e- communicate steps and results from an investigation.

National Science Standard Links (grades 5-8)

This activity is linked to the national science standards in the following areas:

- Content Standard A – Abilities necessary to do scientific inquiry, think critically and logically to make the relationships between evidence and explanations.

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- Content Standard F –Personal health; populations, resources, and environments; risks and benefits.

Materials

To be provided by the teacher:

- In advance of this lesson, contact Marin County Stormwater Pollution Prevention Program to request free brochures. Refer to Resources section of this unit for contact information.
- Art supplies and poster paper.

Vocabulary

watershed

Procedures

1. Order materials from MCSTOPPP

Free materials for students are available through the Marin County Stormwater Pollution Prevention Program (MCSTOPPP). Contact information is listed in the Resources section of this unit. Allow two to four weeks to receive information. Students may also be able to locate applicable information on the Internet.

Free consumer publications to choose from

- ☐ Less Toxic Home and Garden
- ☐ Grow It!
- ☐ Fact Sheets
- ☐ Clean It!
- ☐ Creek Care Guide
- ☐ Yard Clippings and Your Creek Bank
- ☐ Repairing Streambank Erosion
- ☐ Erosion Control for the “Weekend Warrior”
- ☐ We’re Dying to Tell You
- ☐ Boating Clean and Green
- ☐ Animal Waste
- ☐ Composting
- ☐ Swimming Pools and Spas
- ☐ Moving
- ☐ Used Motor Oil Recycling
- ☐ Horse Owner’s Guide to Water Quality Protection
- ☐ How You Can Help Improve Coho Salmon and Steelhead Habitat

2. Instructions for students

Review concept of watershed and locate your watershed on a local map. Next, assign student teams and profession/role they will represent (see list below). Each team will review materials from MCSTOPPP to list five watershed conservation recommendations for their profession/role. Each recommendation should also include the specific action and the rationale for the action. These lists will become the information for their posters.



Professions/Roles

- ☐ Boat Owner (sewage disposal, painting, cleaning, gray water)
- ☐ Landscaper (planting natives, using fertilizers)
- ☐ Gardener (composting, mulching, lawn care, yard waste disposal)
- ☐ Home Owner (recycling household batteries/computers, reducing water use)
- ☐ Pest Controller (natural remedies for pests)
- ☐ Automobile Repair Shop (washing vehicles, changing oil/antifreeze, recycling car batteries/unwanted cars/tires)
- ☐ Horse Stable Owner (water quality next to pasture, erosion of streambanks)
- ☐ House Painter (disposal of paints, washing brushes)
- ☐ Pool/Spa Maintenance Person (chemical disposal, algae control)
- ☐ Housecleaner (carpet cleaning, disposal of cleaning agents/dirty water)

3. Design poster

Teams will design posters to present information they were able to gather. These posters can be displayed at an Open House event or around the community. They can also be placed in a publication that includes all posters.

4. Prioritize threats to watersheds

Generate a class discussion on threats to watersheds based on students' ideas. Once the list is long enough, prioritize the top three threats for your local area.

5. Design a household clean-water strategy

Based on the top three threats to your local area, each student will design a "Household Clean-Water Strategy". This strategy should be based on individual households and shared with family members.

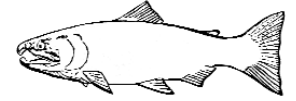
6. Conclusion

Relate clean, healthy watersheds back to coho salmon and steelhead trout population numbers. If everyone were to do their part in clean, plentiful water supplies, these fish and all life would have safer habitat to live in and utilize.

Extension ideas

1. Design a "School Clean-Water Strategy" based on information generated in this lesson.
2. Review the water cycle and how pollutants are introduced into this cycle. Compare and contrast an inland water cycle to one closer to the ocean.

How Can We Compare and Share Our Creek Data?



Post-Visit

Lesson Plan

Creek data collected at Point Reyes National Seashore or local creeks can become more meaningful when compared and contrasted with other creeks in the North San Francisco Bay region. The North Bay Riparian Station is a perfect opportunity to share creek data and learn more about the entire watershed's health.

Time required: 1 – hour

Location: classroom

Suggested group size: all students can participate and access website

Subject(s): science and math

Concept(s) covered: technology used for data and research, internet in the classroom, environmental stewardship

Written by: Tricia Corsetti, Tomales Elementary School

Last updated: 03/04/00

Student Outcomes

At the end of this activity, the students will be able to:

- Find real applications for creek ecology research.
- Access environmental data from other sites of the North San Francisco Bay Riparian Station website.
- Use the computer as an educational tool.

California Science Standard Links (grades 6-8)

This activity is linked to the National Standards in the following areas:

- 6th grade: 7b- appropriate tools and technology to perform tests, collect data, and display data;
- 7d- communicate the steps and results from an investigation;
- 7th grade: 7a- appropriate tools and technology to perform tests, collect data, and display data;
- 7b- utilize a variety of print and electronic resources;
- 7c- communicate the logical connections;
- 7e- communicate the steps and results from an investigation.
- 8th grade: 9b- evaluate the accuracy and reproducibility of data.

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National Science Standard Links (grades 5-8)

This activity is linked to the National Science Standards in the following areas:

- Content Standard A – Understanding about scientific inquiry.
- Content Standard E – Understanding about science and technology.

Materials

To be provided by the teacher:

- Computer with access to the Internet (Netscape 3.04 or higher).

To be photocopied from this guide:

- **Field Journal Sheets** with data results from on-site visit.

Vocabulary

None

Procedures

1. Order instruction manual

Teachers need to contact the North Bay Riparian Station at (415) 332-1941 or ***www.mywatershed.org*** for a copy of the Online GIS/Database Training Manual to assist in the data-entry process for their classroom.

2. Explore website

After the students have collected, analyzed, and compiled their creek ecology data as a class, they will access the North Bay Riparian Station website listed above.

3. Enter creek information online

See the attached teacher information from the training manual to begin the website program.

Extension ideas

1. The Internet is an excellent resource for classrooms to participate in environmental research projects and to link with other classrooms doing similar projects. The EPA, Trout Unlimited, and local universities all have websites for classrooms to access and do research.

North Bay Riparian Station Website

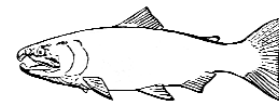


Teacher Information

1. To begin the website program, access www.mywatershed.org and click on the maps/data link.
2. The main screen has four functional areas: Top Tool Bar, Main Map Area, Profile Selection Frame, and the Project List.
3. Zoom in on the map by clicking on the “Zoom-In” icon (magnifying glass) and then click on the map near the Droplet icons on the map (droplets identify locations where schools and community groups are conducting field activities.)
4. Practice zoom-in and zoom-out controls to access the different sites on the map. The zoom-all button zooms out to the original small-scale map that was originally displayed.
 - In order to view project descriptions and other information, click twice on project icons.
 - Once you’ve selected a project, click on the data icon in the tool bar to view the data for that site. To display a graph of the data for a specific field (ex. turbidity, pH, etc.), click on the “view graph” icon. To close graph, simply click on the little “x” in the upper right corner to close the browser window.
 - To add a station for your class, click on the Upload New Project button (liferaft icon). You will be prompted with a password box requesting a group name or password. Contact site administrator by following the instructions on the screen. After entering your information, click the submit button.
 - You will be prompted to complete a station entry form. Click the “digitize point” button to calculate latitude and longitude. This will automatically calculate your site location.
 - After hitting the “insert data” button, the “Entry was Successfully Submitted” window will be displayed. Click the “redraw map” button to view the droplet icon you’ve just inserted onto the map.
 - To enter data, select the all fields from the pull-down menu in the lower left corner of the screen. Click the set button, then click the Upload Event Data.
 - Follow the prompt “Please Enter Your Name and Password.” Click the submit button. In the Data Entry window, click on the item for which you wish to enter data. To enter data to the site, click on the data form. Click the launch button to enter data on the form.
5. Contact the North Bay Riparian Station at (415) 332-1941 for a copy of the Training Manual to give specific instructions for uploading a photo to the website, and for creating and editing a profile.



How Can We Choose and Complete the Best Stewardship Project?



Post-Visit

Lesson Plan

The final lesson for this unit synthesizes all previous learning experiences. Students have gained an understanding of creek ecology and some of the threats to its sustainability. Now it's time to take action in making creeks healthier places for the variety of organisms that depend on them, from aquatic insects to humans.

Time required: time varies

Location: classroom, community, or Point Reyes National Seashore

Suggested group size: entire class

Subject(s): biology, art, computer skills, community service

Concept(s) covered: stewardship, educating others, environmental responsibility

Written by: Lynne Dominy and Christie Denzel Anastasia,
National Park Service

Last updated: 07/30/00

Student Outcomes

At the end of this activity, the students will be able to:

- Synthesize all other pre-visit, on-site, and post-visit lessons from this unit.
- Plan and implement an environmental stewardship activity to benefit the ecosystem they live in and depend upon.

National Science Standard Links

As a result of this activity, all students in grades 6-8 should develop:

- Content Standard F- Science in Personal and Social Perspectives; Populations, Resources, and Environments.

Materials

To be provided by the teacher:

- Varies by project, see teacher information "Monitoring Creek Health: Environmental Stewardship Projects"

Vocabulary

stewardship

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Procedures

1. Decide on lesson approach based on time limitations

Review the teacher resource **Monitoring Creek Health: Environmental Stewardship Projects** following this lesson. This teacher resource explores the range of Stewardship Projects your class can complete according to time constraints. There are many possibilities ranging from short lessons to more in-depth, interdisciplinary projects that may fulfill educational standards for other subject areas.

2. Prior to any lesson, introduce concept of environmental stewardship

Begin a discussion of who has responsibilities for natural resources. There are federal agencies such as the National Park Service and United States Forest Service, state agencies such as California Fish and Game, and local organizations. Introduce the concept that organizations such as schools, and individuals such as students also have responsibility.

Every day we decide on an individual level what our impact will be on the environment based on our actions. It's usually positive or negative, rarely neutral.

3. Lesson options

- How to positively effect species and their habitats
- Create tools to educate others
- Implement a community project
- Participate in volunteer programs at Point Reyes National Seashore
- Support stewardship organizations and be an advocate for your beliefs

(see the teacher information **Monitoring Creek Health: Environmental Stewardship Projects** following this lesson for more details)

4. Assist with evaluation of "Creating Coastal Stewardship through Science"

Please share your project ideas and results! If you develop a website, host a "Coastal Stewardship Day", or participate in a beach cleanup, let us know by sending photos, stories or student materials. Call (415) 663-8522 Extension 259 to leave a message with the Education Division of Point Reyes National Seashore.

Monitoring Creek Health: Environmental Stewardship Projects



Teacher Information

How to Positively Affect Endangered Species and Their Habitat

One to two lessons

Students use the “How to Positively Effect Species and Their Habitats” activity sheet to learn more about a particular federally listed species associated with coho salmon, steelhead trout, and riparian corridors. Based on that research, students devise action plans for which they assume responsibility for contributing toward a healthy riparian cooridor.

Create Tools to Educate Others

Arranged in order of possible time commitment, shortest to longest

Lead a class discussion to brainstorm ways students can educate others. Use the list below to help students generate ideas. Once there are a number of ideas, decide which project can be completed within a designated time frame. The next step is to have students create a “plan of action”. What are all the things that need to be done, in which order do they need to be done, who is going to do them, and what are the deadlines? How can students not only teach about the resource, but also impart stewardship values? Remind students to think about any safety issues and address these as a group.

Educational tool ideas:

- Develop a newsletter or newspaper to distribute to other students.
- Build an exhibit that is displayed for a Parents’ Open House.
- Paint a mural, draw posters, or create a website that encourages Creek Stewardship.
- Interview a researcher about a creek restoration project. Share the answers.
- Organize a Coastal Stewardship Contest. Have students define stewardship through writing essays or creating art, poetry or music.
- Videotape your field trip and stewardship activities. Have the students narrate this video and develop a presentation for other students sharing what they have learned and accomplished.
- Create a mentoring program that enables your students to teach younger students about resources and their stewardship.



Monitoring Creek Health Environmental Stewardship Projects

(continued)

Teacher Information

Implement a Community/School Project

Arranged in order of possible time commitment, shortest to longest

Instruct students as a homework assignment to find at least one local environmental issue that is being discussed among community members. Students may gain this information by looking through newspapers, talking to their parents, watching the local news, or listening to a public radio station. The next day in class, all local environmental issues should be discussed to some extent. Choose one project around which students may design a stewardship project. What are the possible stewardship activities that can be completed by students, and/or their parents and communities? Follow the ideas in the procedure above to create a “plan of action”.

Community/School Project Ideas:

- Water conservation at school and home.
- Paint fish symbols on storm drains to discourage dumping of toxics into water supplies. (See Marin County Stormwater Pollution Prevention Program in Resources section)
- Create a green school: investigate recycling and composting facilities or water conservation. Have students write a plan about how to make your school more environmentally friendly. Have them take action and implement some of their ideas.
- Raise steelhead trout in the classroom. (See Trout Unlimited in Resources section)
- Creek restoration: participate in creek restoration and stewardship projects. Visit the North Bay Riparian Station’s website at www.mywatershed.org for more information on restoration projects.

Participate in Volunteer Programs at Point Reyes National Seashore

2 hours, full day, or regular commitment on weekly/monthly basis

Students may participate in programs such as restoration, rehabilitation, or research projects. Consult with the Volunteer Coordinator or Education Specialist for the most recent options as projects can change according to time of year and staffing availability. One example of participating in a restoration project would be to remove exotic plants from natural areas. To participate in the habitat restoration projects at Point Reyes National Seashore call (415) 663-8522 x 259.

Support Stewardship Organizations and Be an Advocate for Your Beliefs

1 lesson to lifelong commitment

Introduce students to the concept of advocacy. Have them research and represent the missions of local and national stewardship organizations. Examples include: the National Park Service, the Marine Mammal Center, the Humane Society, the Sierra Club, the National Parks and Conservation Association and the Audubon Society. Have students write letters to their local, state and national government officials regarding stewardship issues or have them submit articles to local newspapers. Encourage students to form educated opinions and to voice them.



How to Positively Affect Species and Their Habitat

Choose one of the following federally or state listed species occurring in riparian corridors of Point Reyes National Seashore to answer the questions below:

- | | |
|---|---|
| <input type="checkbox"/> Pacific lamprey | special concern (federal) |
| <input type="checkbox"/> Tidewater goby | endangered (federal) |
| <input type="checkbox"/> Unarmored threespine stickleback | endangered (federal and state) |
| <input type="checkbox"/> California red-legged frog | threatened (federal) |
| <input type="checkbox"/> Alameda striped racer | special concern (federal)
threatened (state) |
| <input type="checkbox"/> San Francisco forktail damselfly | special concern (federal) |
| <input type="checkbox"/> San Francisco lacewing | special concern (federal) |

INVESTIGATION

1. How have population numbers of this particular species changed over time?
2. What are the threats to this species as an individual?
3. What are specific threats to the riparian habitat for this species?
4. Does this species depend on other types of habitat?
5. What is the federal government doing to increase population numbers?
6. Why should we care about preserving this species?





How to Positively Affect Species and Their Habitat

(continued)

Activity Sheet

PROBLEM SOLVING

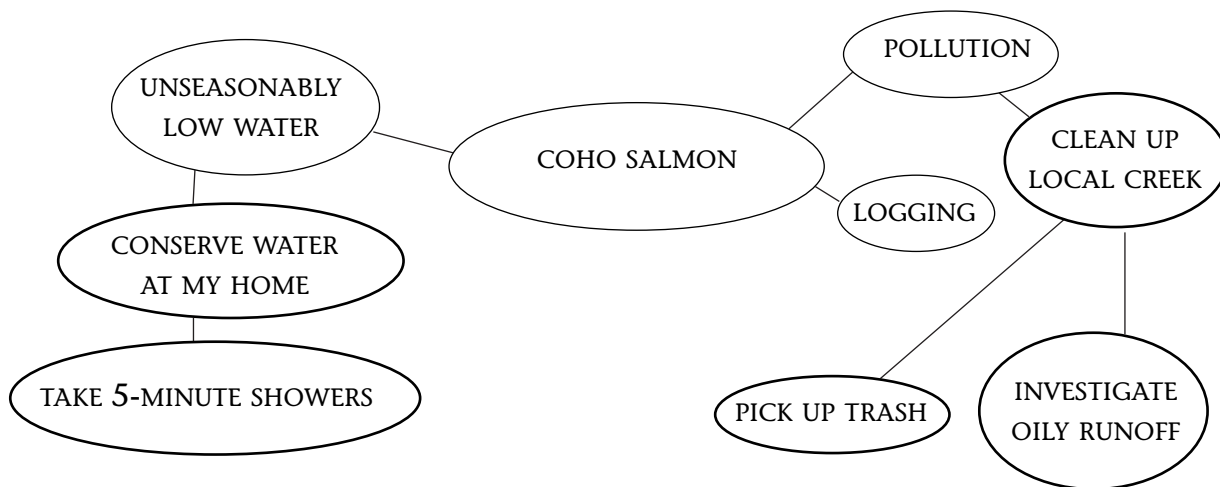
Using a blank piece of paper, you will create a “mind-map”.

Begin by writing the name of your species in the center of the paper and drawing a circle around it. Choose some of the threats to its survival and write those around the species name. Draw circles around each of the threats and connecting lines to the circle in the center. You should have something that looks like this:



Begin problem solving by thinking about actions that lessen the impact of specific threats. Write those actions in circles connected to the threat it seeks to solve.

Example:



RESOLUTION

Review your mind-map to determine what type of actions YOU can take that will positively affect these species and/or their habitat.

Place “*” next to actions you are already doing,

Place a “1” next to actions individuals can do,

Place a “2” next to actions groups can do, and

Place a “?” next to things you believe are not within your control.

➡ Select an option and implement your plan.